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**PRESENT CLAIMS**

1. (Original) A thermoelectric cooler comprising:  
a multistage thermoelectric cooler, each stage of said multistage cooler arranged with a Peltier device interposed between an intermediate heat sink and an intermediate cold sink, said Peltier device configured to exhibit a voltage drop.
2. (Original) The thermoelectric cooler of claim 1 whereby said multistage thermoelectric cooler effects heat transfer from a cold sink to a hot sink.
3. (Original) The thermoelectric cooler of claim 1 wherein said Peltier device is lead telluride.
4. (Original) The thermoelectric cooler of claim 1 wherein said Peltier device is bismuth telluride.
5. (Original) The thermoelectric cooler of claim 1 wherein said intermediate heat sink of stage n is an intermediate cold sink of stage n-1.
6. (Original) The thermoelectric cooler of claim 1 whereby electrons are transferred from said intermediate cold sink to said intermediate hot sink.
7. (Original) The thermoelectric cooler of claim 1 wherein said Peltier device is constructed of n-type semiconductor material.

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8. (Original) The thermoelectric cooler of claim 1 wherein said Peltier device is constructed of p-type semiconductor material.

9. (Original) The thermoelectric cooler of claim 1 wherein said cooler is comprised of alternating n-type and p-type semiconductor material at each stage of said multistage thermoelectric cooler.

10. (Original) A thermoelectric cooler array comprised of the thermoelectric cooler of claim 1 arranged in an  $M \times N$  array.

11. (Original) The thermoelectric cooler of claim 1 wherein each stage of said multistage thermoelectric cooler is manufactured by slicing a bonded n-type and p-type thermoelectric layer.

12. (Withdrawn) A method of manufacturing a multistage thermoelectric cooler, said method comprising the steps of:

creating an n-type thermoelectric substrate;

creating a p-type thermoelectric substrate;

selectively bonding said n-type thermoelectric substrate with said p-type thermoelectric substrate horizontally; and

slicing vertically said bonded substrate.

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13. (Withdrawn) The method of claim 12, said method further comprising the step of:

stacking said vertically sliced bonded substrate; and

vertically slicing said stacked bonded substrate in an orthogonal direction to said first vertical slicing step.

14. (Withdrawn) The method of claim 12 wherein said n-type substrate is lead telluride.

15. (Withdrawn) The method of claim 12 wherein said p-type substrate is lead telluride.

16. (Withdrawn) The method of claim 12 wherein said n-type substrate is bismuth telluride.

17. (Withdrawn) The method of claim 12 wherein said p-type substrate is bismuth telluride.

18. (Withdrawn) The method of claim 12 wherein said steps are repeated for each specified layer of said multilayer thermoelectric cooler.